

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Date: December 15, 2003
Express Mail: ER381188077US

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In re application of: H. W. Adams, et al

Serial No.: 09/421,139

Filed: October 19, 1999

Docket No.: Y0996-244X

Board of Patent Appeals and Interferences
Washington, D.C. 20231

TRANSMITTAL OF APPEAL BRIEF UNDER 37 CFR 1.192

Sir:

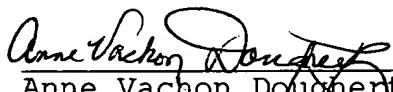
Transmitted herewith, in triplicate is an Appeal Brief with respect to the Notice of Appeal filed October 14, 2003 for the above-identified patent application.

This Appeal Brief is being filed on behalf of other than a small entity.

Authorization is given to charge amount of \$330.00, for filing a Brief in support of appeal in accordance with 37 CFR 1.17(f), to Deposit Account 50-0510. A duplicate copy of this authorization is enclosed.

The Assistant Commissioner is hereby authorized to charge any required additional fee, and charge back any overpayment, to Deposit Account No. 50-0510.

Respectfully submitted,
H. W. Adams, et al



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I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of :

December 15, 2003

H.W. ADAMS, ET AL

Group Art No.: 2175

Serial No.: 09/421,139

Examiner: S. G. Rimell

Filed: October 19, 1999

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Title: SYSTEM AND METHOD FOR
INTERACTIVE READING
AND LANGUAGE INSTRUCTION

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Board of Patent Appeals and Interferences
Washington, D.C. 20231

APPEAL BRIEF (37 CFR 1.192)

Applicants hereby appeal to the Board of Patent Appeals
and Interferences from the decision dated May 14, 2003 of
the Primary Examiner finally rejecting Claims 1-9, 11-14,

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16-19, 21-23, 31-36, 38, 39 and 44-51 in the above-identified patent application, and respectfully request that the Board of Patent Appeals and Interferences consider the arguments presented herein and reverse the Examiner's rejection.

I. REAL PARTY IN INTEREST

The appeal is made on behalf of Applicants who are real parties in interest with respect to the subject patent application.

II. RELATED APPEALS AND INTERFERENCES

There are no pending related appeals or interferences with respect to the subject patent application.

III. STATUS OF CLAIMS

There are thirty-six (36) claims pending in the subject patent application, numbered 1-9, 11-14, 16-19, 21-23, 31-36, 38-39, 44-51. No claims stand allowed. All of

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Claims 1-9, 11-14, 16-19, 21-23, 31-36, 38-39, 44-51 stand rejected.

A complete copy of the claims involved in the appeal is attached hereto.

IV. STATUS OF AMENDMENTS

The status of the prosecution of the application is as follows:

October 19, 1999	-	Continuation filed
May 23, 2000	-	Requirement for Restriction
June 20, 2000	-	Response with traversal
September 12, 2000	-	Office Communication
November 10, 2000	-	Response filed
July 17, 2002	-	Office Action
November 18, 2002	-	Amendment with Rule 131 Affidavit filed
December 27, 2002	-	Office Action
February 28, 2003	-	Response filed
May 14, 2003	-	Final Office Action
October 14, 2003	-	Notice of Appeal

V. SUMMARY OF INVENTION

The subject invention is a computer-based system and method for providing a dynamically-generated, interactive reading lesson between a computer and a student user.

The system comprises user input means including at least audio input means for delivering audible user responses to the system and speech recognition means associated with the audio input means; user interface means including at least audio output means; program controller means for dynamically generating the interactive lesson; and a plurality of databases for access by the program controller means in interpreting user responses input to the user input means including at least one lesson database and at least one lesson-based speech interpretation database (independent Claim 1 and Claims 2-6, 11-14, and 44-51 which depend either directly or indirectly therefrom, and independent Claim 21 and Claims 22-23 which depend therefrom) and or at least one lesson database and at least one lesson storage database for storing the interactively

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generated lesson (Claim 7 and Claims 8-9 and 16-19 which depend either directly or indirectly therefrom).

The method comprises determining an interaction level for the student user; and dynamically generating the interactive language lesson by retrieving lesson information appropriate to the interaction level from the at least one first database and lesson-based speech interpretation information corresponding to the lesson information from the at least one second database; providing lesson information to the user at the output means; providing lesson-based speech recognition information to the speech recognition means; prompting the student user to provide responses at the user input means; receiving student responses from the user input means; interpreting the student responses at the speech recognition means; and generating an output based upon the interpreting of the student responses (Claim 31 and Claims 32-36 and 38-39 which depend therefrom).

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VI. STATEMENT OF ISSUES OF APPEAL

There following issues are on appeal:

(1) whether the Examiner erred in concluding that the Rule 131 affidavit was not effective in overcoming the application of the Mostow reference;

(2) whether the Examiner erred in rejecting the claims under 35 USC 112 when the Examiner concluded that the claim language "dynamic generation" was not supported by the specification; and

(3) whether the Examiner erred in rejecting the claims as anticipated by the Mostow patent.

VII. GROUPING OF CLAIMS

The Claims can be considered in the following groups for purposes of this appeal:

(I) Group I: Claims 1, 3, 6, 45-46 and 50 which are drawn to the system comprising user input means, user interface means, program controller means for dynamically generating the interactive lesson and a plurality of databases including at least one lesson database and at least one lesson-based speech interpretation database;

(II) Group II: Claims 2, 4, 5, 21, 44, and 51 which recite additional databases;

(III) Group III; Claims 11-14, 16-19, 23 and 33 which additionally recite at least one monitor or monitoring steps;

(IV) Group IV; Claims 7-9, 22, 38, and 47-49 which additionally recite lesson storage and/or session storage means and steps; and

(V) Group V; Claims 31-32 and 34-36 and 39 which recite the method comprising determining an interactive level for the student and dynamically generating the lesson.

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VIII. ARGUMENT

ARGUMENT (1)

With regard to issue (1), Applicants respectfully contend that the Examiner erred in concluding that the Rule 131 affidavit was not effective. In a submission dated November 18, 2002, Applicants submitted a Declaration of Prior Invention in accordance with Rule 37 CFR 1.131. The supporting documentation was provided on February 27, 2003 in response to an Office Communication from the Examiner indicating that the supporting documentation had become separated from the Declaration. A copy of the Declaration with supporting documentation can be found in the application file wrapper.

The supporting documentation, as expressly stated on page 2 of the Declaration, included "computer archive records showing archiving of program code for the inventive system and method; and excerpts from source code embodying the inventive system and method." The source code is clearly labeled as "the file READ:C", which is shown on the computer archive record as having been archived on 11/20/95, a date which clearly predates the 6/2/97 effective date of

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the Mostow reference. The source code file "READ:C", which Applicants declare embodies the inventive system and method, shows step-by-step readable source code which parallels the claim language. Applicants believe that the introduction of the source code does not amount to "mere pleading" as contended by the Examiner. Rather, Applicants believe that the step-by-step readable source code is self-explanatory and does not require further explanation to be effectively correlated to the claim language.

In response to the citation of the MPEP 715.07, Applicants respectfully assert that the Declaration does "clearly explain the facts or data applicant is relying on to show completion of his or her invention prior to the particular date" (*In re Borowski*, 505 F. 2nd 713, 184 USPQ 29 (CCPA 1974)). Applicants' Declaration clearly states that the source code embodies the invention. The exhibit did not comprise object code, which would be indecipherable without clear explanation, but was source code comprises of English language, readable, step-by-step instructions. There can be no confusion that those step-by-step instructions comprise the facts that are being relied upon by Applicants (*In re Harry*, 333 F. 2nd 920, 142 USPQ 164

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(CCPA 1964)) and no confusion that it is the claim language which is being established by the source code.

Applicants respectfully assert that the Examiner should have entered the Declaration, withdrawn the rejections based on the Mostow reference, and allowed the pending claims. Accordingly, Applicants request that the Board overturn the Examiner's decision that the information provided is not effective for a complete affidavit and that the Board compel entry of the Declaration of Prior Invention and removal of the Mostow patent as a reference against the present application.

ARGUMENT (2)

As to issue (2), whether the Examiner erred in rejecting the claims under 35 USC 112 when the Examiner concluded that the claim language "dynamic generation" was not supported by the specification, Applicants note that Claims 1-9, 11-14, 16-19, 21-23, 31-36, 38-39, and 44-51 have been rejected under 35 USC 112 based on the use of the term "dynamic generation". While the words "dynamic" and "dynamically" are not expressly found in the original disclosure, Applicants have respectfully asserted that the

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language is adequately supported by the teachings of the original disclosure.

Throughout the Specification, the inventive system and method was described as being adapted for automatically adjusting or altering the lesson based on the user/student input. Examples of the supporting language can be found in the following passages: Page 4, lines 2-6 which discloses "a system...to automatically increasingly challenge the learner" and "means to present...lessons in varied ways depending upon the proficiency of the student"; page 4, lines 10-14 which discloses "a system which will coordinate and display a joint performance..."; Page 4, lines 20-23 which discloses that "the text 'read' by each participant and the pace at which the lesson progresses can each be automatically altered based upon the proficiency of the student"; Page 8, lines 12-13 which discloses "change the amount of support given to the user"; Page 8, lines 15-16 which discloses "break up the text and control the amount of material that the learner is asked to read"; Page 18, lines 16 et seq, which discloses "regularly updates...with a revised estimate of the student's competency based upon his or her performance" to "change the manner in which the

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reading or speaking...will be shared" and "the interaction...may move from level N [to another level]"; Page 22, lines 9-11 which discloses "periodically perform...updating". It is clear from a review of the foregoing passages that the original Specification taught dynamic generation of the lessons presented to a user/learner. The system and method monitor student progress and automatically adjust the lesson (one or both of lesson content and level of interaction) based on the progress. Applicants believe that the "dynamic generation" language is adequately supported by the teachings of the Specification; and, respectfully request that the Board overturn the rejection under 35 USC 112.

In response to the Examiner's contention that the term "dynamic generation" implies processes and systems that are beyond the scope of the Applicants' original disclosure, Applicants respectfully assert that the dynamic generation of an interactive lesson between the computer and a student user under the present invention is clearly based on the user input at the user input means. The very use of the term "interactive" expressly requires that the dynamically generated lesson be based on the interaction between the

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user and the computer. Applicants do not seek to broaden the scope of protection beyond that which is detailed in the original specification and respectfully disagree with the Examiner's suggestion that a lesson generated based on Bayes theorem or fuzzy logic would be covered by the claim language. Generating a lesson based on Bayes theorem or fuzzy logic would not be the same as or suggestive of dynamically generating an interactive lesson as taught and claimed. Accordingly, Applicants request that that Board overturn the Examiner's rejection under 35 USC 112.

ARGUMENT (3)

As to issue (3), whether the Examiner erred in rejecting the claims as anticipated by the Mostow patent, Applicants reiterate that the Mostow patent is not an effective 102(e) reference against the present invention. However, even if the Mostow patent had predated the present invention and could be used as a 102 reference, Applicants respectfully submit that the Mostow patent does not anticipate the invention as claimed. The Mostow patent provides a reading and pronunciation tutor including a tutor function/component 22 that responds to events that are

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detected at component 20 (see: Col. 3, line 65-Col. 4, line 14). The tutor component will "intervene" in the lesson in one of three ways: preemptively, based on the lesson complexity (i.e., a predefined "event" being the occurrence of a difficult word that the reader is not expected to read); assistively, based upon an explicit user request (i.e., an actuation event); or, correctively, in response to a detected error (e.g., detected silence or detected mispronunciation). What the Mostow tutor generates, though, is a response to an expected event. The Mostow tutor does not dynamically generate an interactive lesson based on the progress of the lesson and/or the detected proficiency of the student; it simply detects an event and generates the programmed response to that detected event. Applicants classify the Mostow system and method as a "lecture" delivery system. Mostow delivers the stored lesson. Mostow does not, however, dynamically generate an interactive lesson which is geared to the particular user.

Applicants respectfully assert that the Mostow patent does not anticipate the invention as claimed. It is well established under U.S. Patent Law that, for a reference to anticipate an invention, that reference must teach each and

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every claimed feature. In light of the fact that the Mostow patent does not teach a speech recognition system and method including dynamically generating the interactive lesson, Applicants contend that an anticipation rejection cannot be maintained against independent Claims 1, 7, 21 and 31, and the claims which depend therefrom (Claims 2-6, 11-14 and 44-51 depending indirectly or directly from Claim 1; Claims 8-9 and 16-19 depending directly or indirectly from Claim 7; Claims 22-23 depending from Claim 21; and, Claims 32-36 and 38-39 depending directly or indirectly from Claim 31).

Further, Applicants respectfully disagree with several of the Examiner's conclusions regarding the teachings of the Mostow patent. First, Applicants disagree that the Mostow database of text segments anticipates a database of anticipated incorrect student responses (Claim 2). The anticipated incorrect student responses were detailed in the Specification as far more than simply correctly pronounced word fragments, as taught by Mostow. The anticipated incorrect student responses include words which are commonly interchanged and expected mispronunciations. Clearly a database of correct syllables or word fragments does not

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anticipate a database of anticipated incorrect student responses.

With regard to the claimed recitation of at least one database of acoustic information for use by the speech recognition means in interpreting student responses (Claims 4, 5, 30, 41 and 43), Applicants contend that the Mostow storage of sound effects (e.g., to enhance a story or to give a student a hint about the word to be read) is not the same as or suggestive of acoustic information for use by a speech recognition means in interpreting student responses. Mostow stores sound effects for display. Clearly a database of sound effects for display does not anticipate a database of acoustic information for use in recognizing speech, as recited in Claims 4, 5, 21, 30, 41, and 43.

With regard to the Examiner's conclusion that Mostow's quality control module anticipates the claimed program controller for continually monitoring student progress, Applicants disagree. Mostow evaluates responses to determine if the user's speech corresponds to the text. Mostow applies its quality control check, based on predefined thresholds, and decides whether to move on in the text (i.e., highlight the next word, see: Col. 9, lines

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6-15). Applicants respectfully assert that Mostow does not evaluate for monitoring of student progress. Clearly a quality control module for evaluating whether to accept a response and move on is not the same as a program controller for continually monitoring student progress, as recited for Claims 11-14, 16-19, 23, and 33.

In response to the Examiner remarks regarding Claim 44, that a database containing stored student responses defines a reading level database. Applicants note that the claimed database of reading level information for adjusting the complexity of the interactive lesson is not the same database that stores student responses. Therefore, any database of Mostow which stores student responses would not anticipate the claimed database which stores lessons for the appropriate reading level regardless of who is reading and how they are reading.

As to the Examiner's comment when rejecting Claim 47 that any database defined in Mostow reads as a session database, Applicants respectfully disagree. The Mostow story text database is not a session database, since the content of that story text database will not change from session to session. Similarly, the speech interpretation

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database and the pronunciation database are not session-based, since they remain unchanged regardless of what session is underway when the database is accessed. The contents of the Mostow speech interpretation, pronunciation, and story text databases do not reflect the interactions of any one session and are not, therefore, session-based as claimed in Claims 47-49.

As to the comment citing the "Back" function against Claim 48, Applicants note that Mostow provides a "Back" function so that a user can try a word again. However, the Mostow "Back" function does not replay stored responses, it simply backspaces in the lesson to the word that the user wants to try again. Moreover, clearly Mostow is not using information stored in a session database, since Mostow does not store all session information in a database, but only stores that which the quality control module determines is good enough to store. Clearly Mostow is not using a session database when skipping back to a previous word.

Similarly, it is clear that the use of the session database as recited in Claim 49 is not anticipated since Mostow does not save all session information. Claim 49 covers the teachings whereby a new session can start at a

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starting point other than the beginning of a text based on information about a previous session which is stored in the session database. Clearly the Examiner's conclusion that "any point in the lesson which is started by the controller may be read as the claimed starting point" cannot be sustained as anticipating establishing a starting point of a lesson based on stored session information from a previous session.

Applicants further contend that the lesson storage, which is recited in Claims 7-9, 22, and 38 is neither anticipated nor obviated by the Mostow reference. Applicants reiterate that the present invention provides a dynamically generated interactive lesson for each user. Simply delivering a set program of text, which amounts to a "lecture", is not the same as or suggestive of dynamically generating an interactive lesson, let alone dynamically providing lesson storage for the particular user's reading lesson.

With regard to the Examiner's conclusion that any text database of Mostow anticipates the "text power set", Applicants again point to the explicit definition of a text power set as provided in the Specification on page 10.

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Applicants are not claiming any database having text, they are claiming a very well-defined database of phonemic representations of contiguous words. Mostow simply does not provide any teachings which anticipate the claim language, recited as a "text power set" in Claim 51.

Based on the foregoing, Applicants request that the Board overturn the rejections based on 35 USC 102(e).

CONCLUSION

Applicants respectfully assert that the Examiner has erred in refusing to accept the Declaration of Prior Invention, has erred in rejecting the claims under 35 USC 112, and has erred in rejecting all of the pending claims under 35 USC 102(e) as anticipated by the Mostow patent. Applicants request that the decision of the Examiner, rejecting all of the pending claims, be overturned by the Board and that the claims be passed to issuance.

Respectfully submitted,
H. W. Adams, et al

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APPENDIX OF CLAIMS

1. A computer-based learning system for providing an interactive lesson between the computer and a student user comprising:

user input means including at least audio input means for delivering audible user responses to said system and speech recognition means associated with said audio input means;

user interface means including at least audio output means;

program controller means for dynamically generating said interactive lesson; and

a plurality of databases for access by said program controller means in interpreting user responses input to said user input means including at least one lesson database and at least one lesson-based speech interpretation database.

2. The system of Claim 1 wherein said at least one lesson-based speech interpretation database comprises

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at least one database of anticipated incorrect student responses.

3. The system of Claim 1 wherein said at least one lesson-based speech interpretation database comprises at least one database comprising the set of all possible combinations of correct student responses.

4. The system of Claim 1 further comprising at least one database of acoustic information for use by said speech recognition means in interpreting student responses.

5. The system of Claim 4 wherein said database of acoustic information comprises acoustic information relating to speech by a specific class of students.

6. The system of Claim 1 further comprising visual output means for display of information accessed from said at least one lesson database by said program controller means.

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7. A computer-based learning system for providing an interactive lesson between the computer and a student user comprising:

user input means including at least audio input means for delivering audible user responses to said system and speech recognition means associated with said audio input means;

user interface means including at least audio output means;

program controller means for dynamically generating said interactive lesson; and

a plurality of databases for access by said program controller means including at least one lesson database and at least one lesson storage database for storing the interactively generated lesson.

8. The system of Claim 7 wherein said system further comprises visual output means and wherein said program controller is adapted to display said interactively generated lesson stored in said at least one lesson storage database.

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9. The system of Claim 7 further comprising network means for providing said interactively generated lesson stored in said at least one lesson database from said computer to a remote location.

11. The system of Claim 1 wherein said program controller is adapted to continually monitor student progress based on said student responses.

12. The system of Claim 11 wherein said program controller is further adapted to generate student progress information based on said monitoring; and further comprising at least one storage location for storing said student progress information.

13. The system of Claim 11 wherein said program controller is adapted to alter the level of interaction of the student with said lesson based upon said monitoring.

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14. The system of Claim 11 wherein said program controller is additionally adapted to generate at least audio output based on said monitoring.

16. The system of Claim 7 wherein said program controller is adapted to continually monitor student progress based on said student responses.

17. The system of Claim 16 wherein said program controller is further adapted to generate student progress information based on said monitoring; and further comprising at least one storage location for storing said student progress information.

18. The system of Claim 16 wherein said program controller is adapted to alter the level of interaction of the student with said lesson based upon said monitoring.

19. The system of Claim 16 wherein said program controller is additionally adapted to generate at least audio output based on said monitoring.

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21. A computer-based learning system for providing an interactive lesson between the computer and a student user comprising:

user input means including at least audio input means for delivering audible user responses to said system and speech recognition means associated with said audio input means;

user interface means including at least audio output means;

program controller means for dynamically generating said interactive lesson; and

a plurality of databases for access by said program controller means in interpreting user responses input to said user input means including at least one lesson database, a plurality of lesson-based speech interpretation databases at least comprising one database of anticipated incorrect student responses and one database comprising the set of all possible combinations of correct student responses; and at least one database of acoustic information for use by said

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speech recognition means in interpreting student responses.

22. The system of Claim 21 further including at least one lesson storage database for storing the interactively generated lesson.

23. The system of Claim 21 wherein said program controller is adapted to continually monitor student progress based on said student responses, to generate student progress information based on said monitoring; and to alter the level of interaction of the student with said lesson based upon said monitoring.

31. A method for providing an interactive language lesson between a student user and a computer having at least a program controller, speech recognition means, at least one first database for storing said lesson and at least one second database for storing lesson-based speech interpretation information, user input means for providing responses from said student user, and output